

Claims

What is claimed is:

1. An encapsulated electrophoretic display, comprising one or more species of particles, each having a distinct electrophoretic mobility, wherein at least one of said species of particles is retroreflective.
2. The display of claim 1, wherein said display comprises a capsule in a binder encapsulating said one or more species of particles.
3. The display of claim 1, wherein said one or more species of particles are corner cubes.
4. The display of claim 1, wherein said one or more species of particles has a reflective coating.
5. The display of claim 1, further comprising a suspending fluid having a density substantially matched to the density of said one or more species of particles.
6. The display of claim 5, wherein said suspending fluid is a halogenated hydrocarbon.
7. The display of claim 6, wherein said suspending fluid is tetrachloroethylene.
8. The display of claim 6, wherein said suspending fluid is poly(chlorotrifluoroethylene) polymer.
9. The display of claim 8, wherein said polymer has a degree of polymerization from about 2 to about 10.

10. The display of claim 5, wherein said suspending fluid comprises a mixture of two or more fluids.
11. The display of claim 5, further comprising an oil-soluble dye in said suspending fluid, said dye being selected from the group consisting of anthraquinone, azo, and triphenylmethane type dyes.
12. The display of claim 5, further comprising a surfactant in said suspending fluid.
13. The display of claim 12, wherein said surfactant is sodium dodecylsulfate.
14. The display of claim 2, wherein said binder is selected from the group consisting of water-soluble polymers, water-dispersed polymers, oil-soluble polymers, thermoset polymers, thermoplastic polymers, uv-cured polymers, radiation-cured polymers, gelatin arabic, gum arabic, polyurethanes, polyamides, urea formaldehyde resin, melamine formaldehyde resin, cellulose, cellulose derivatives, polyvinylacetates, and polyvinylalcohol.
15. The display of claim 14, wherein said binder further comprises an additive selected from the group consisting of organic surfactants, organic salts, organic particles, and organic pigments.
16. The display of claim 1, wherein said one or more species of particles are titania.
17. The display of claim 1, wherein said one or more species of particles are metal oxide-coated titania.
18. The display of claim 17, wherein said metal oxide is selected from the group consisting of aluminum oxide and silicon oxide.
19. The display of claim 18, wherein said metal oxide-coated titania comprises two layers of metal oxide coating.

20. The display of claim 19, wherein said titania is coated with both aluminum oxide and silicon oxide in either order.
21. The display of claim 1, further comprising a charge control agent.
22. The display of claim 21, wherein said charge control agent is polyisobutylenesuccinimide.
23. The display of claim 21, wherein said charge control agent is a metal soap.
24. The display of claim 21, wherein said charge control agent is lecithin.

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